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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,864	08/21/2003	Fang-Chen Cheng	29250-001062/US	6876
<div>7590 05/10/2007 HARNESS, DICKEY &amp; PIERCE, P.L.C. P.O. Box 8910 Reston, VA 20195</div>			<div>EXAMINER ALPHONSE, FRITZ</div>	
			<div>ART UNIT 2112</div>	<div>PAPER NUMBER</div>
			<div>MAIL DATE 05/10/2007</div>	<div>DELIVERY MODE PAPER</div>

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/644,864

Applicant(s)

CHENG ET AL.

Examiner

Fritz Alphonse

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

0.1 This Office Action is in response to the amendment filed on 2/13/2007. Claims 1-21 are pending.

#### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mousley (US Pub. 2003/0100268) in view of Agee (Pub. No. U.S. 2004/0095907 A1).

As to claims 1 and 13, Mousley (fig. 4) discloses a communication system comprising detecting a state of received ACK/NACK feedback information for associated sent data based on at least one threshold (page 2 [0027-0030]), Mousley discloses a term representing an effect on data for one possible type of error in detecting a state of the received ACK/NACK feedback information (page 3 and [0030-0033]).

Mousley differs from claim 1 in that he does not specifically teach an objective function including at least a first term representing an affect on data. However, the limitations are obvious and very well known in the art, as evidenced by Agee (paragraph [0380]).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to combine Mousley's communication system with the wireless multipoint electromagnetic communication networks, as disclosed by Agee. Doing so would provide an

adaptive method which accounts for multipath interaction amongst the nodes and network, and minimizes unwanted effects while maximizing potential useful effects (paragraph [0158]).

As to claims 2-5, Mousley (fig. 4) discloses a method, wherein the possible type of error is missed detection of a NACK and, wherein the term represents a cost of an average number of total bits to be retransmitted if a NACK is missed in detection (see abstract and [0027-0028]).

As to claims 6-7, Mousley does not explicitly disclose a method, wherein the objective function includes a term representing an effect on data throughput if the state of the received ACK/NACK feedback information is correctly detected, and wherein the term includes a weight variable representing a cost of correct detection of the state of the received ACK/NACK feedback information.

However, the limitations are well known in the art, as evidenced by Agee (paragraph [0380]). See the motivation for the same reason disclosed in claim 1 above.

As to claims 8-10, Mousley (fig. 4) discloses a method, wherein the term includes a throughput variable representing average data throughput; the value of the throughput variable is based on a probability that the ACK/NACK information is detected to represent an ACK and, wherein a value of the throughput variable is based on a probability that the ACK/NACK information is detected to represent a NACK (see abstract and [0007; 0027-0028]).

As to claims 11-12, Mousley (fig. 4) discloses a method, wherein a value of the throughput variable is based on a probability that the ACK/NACK information is detected to represent an erasure (note the reset timer 406).

As to claims 14-17, Mousley discloses a method, wherein the possible type of error is missed detection of a NACK; and, wherein the threshold is further derived based on an effect on

data throughput if the state of the received ACK/NACK feedback information is correctly detected (see [0010]).

As to claims 18-19, method claims 18-19 correspond to apparatus claim 13; therefore, they are analyzed as previously discussed in claim 13 above.

As to claim 20, Mousley (fig. 4) discloses a method, wherein the error type is missed detection of a NACK.

As to claim 21, Mousley does not explicitly disclose a method, wherein the objective function further accounts for an affect on data throughput if the state of the received ACK/NACK feedback information is correctly detected.

However, the limitations are obvious and well known in the art, as evidenced by Agee (paragraph [0380]). See the motivation for the same reason disclosed in claim 1 above. Therefore, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to combine Mousley's communication system with the wireless multipoint electromagnetic communication networks, as disclosed by Agee. Doing so would provide an adaptive method which accounts for multipath interaction amongst the nodes and network, and minimizes unwanted effects while maximizing potential useful effects (paragraph [0158]).

### ***Response to Arguments***

3. Applicant's arguments filed on 2/13/2007 have been fully considered but they are not persuasive.

The Applicant contends, "the Examiner still has not identified, as requested in the previous response, the term in Mousley that is believed to teach "at least a first term

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representing an effect on data throughput for at least one possible type of error in detecting a state of the received ACK/NACK feedback information," as recited in claim 1.

The Examiner disagrees and asserts that, that limitation has been by Agee. As indicated in the previous Office Action, Mousley (fig. 4) discloses a communication system comprising detecting a state of received ACK/NACK feedback information for associated sent data based on at least one threshold (page 2 [0027-0030]), Mousley discloses a term representing an effect on data for one possible type of error in detecting a state of the received ACK/NACK feedback information (page 3 and [0030-0033]). Mousley does not specifically teach an objective function including at least a first term representing an affect on data. However, the limitations are clearly disclosed by Agee (paragraph [0380]).

The Applicant contends, Agee describes an objective function, the objective function is not used to derive a threshold used in detecting a state of received ACK/NACK feedback information. ..., there is no indication the objective function includes "at least a first term ..." as required by claim 1.

The Examiner disagrees and asserts that, the prior art of Mousley differs from claim 1 in that he does not specifically teach an objective function including at least a first term representing an affect on data. However, the limitations are obvious and very well known in the art, as evidenced by Agee (paragraph [0380]).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to combine Mousley's communication system with the wireless multipoint electromagnetic communication networks, as disclosed by Agee. Doing so would provide an

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adaptive method which accounts for multipath interaction amongst the nodes and network, and minimizes unwanted effects while maximizing potential useful effects (paragraph [0158]).

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks, Washington, D.C. 20231

**or faxed to:** (703) 872-9306 for all formal communications.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fritz Alphonse, whose telephone number is (571) 272-3813. The examiner can normally be reached on M-F, 8:30-6:00, Alt. Mondays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques, can be reached at (571) 272-6962.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-3824

Information regarding the status of an application may also be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Fritz Alphonse

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May 7, 2007

  
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